

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-047666

(43)Date of publication of application : 26.02.1993

(51)Int.Cl.

H01L 21/205

(21)Application number : 03-202082

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(22)Date of filing : 13.08.1991

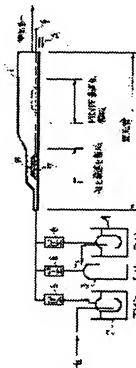
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## (54) VAPOR GROWTH APPARATUS

### (57)Abstract:

**PURPOSE:** To alternately perform an ALE and a VPE without exposing a substrate with the atmosphere and without cooling it to the ambient temperature by narrowing between an inner wall of a reaction tube and the substrate on an ALP executing region, extending it on a VPE executing region, and optimizing material gas flowing speeds on the regions.

**CONSTITUTION:** One reaction tube 1 is defined on an ALP optimized region and a VPE optimized region, a substrate 8 is moved to the regions by a susceptor 7, and a compound semiconductor layer of a molecular layer and an atomic layer by a crystalline growth of VPE and an ALP is formed. In this case, the flowing speed of the material gas in the tube 1 is set to a limit value or more for exhibiting a self-limiting effect on the ALE optimized region and to a limit value or less on the VPE optimized region. Thus, a sectional area of the tube 1 is reduced on the ALE optimized region and increased on the VPE optimized region. In this manner, the ALE and the VPE are alternately executed.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]